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ABSTRACT

The paper discusses the effects of labels on exceptional children and the benefits of tracking individual or class behaviors instead of mere labels. To determine the sensitivity of behavior rate of planning remedial action, 97 children (mentally retarded, emotionally disturbed, regular, learning disabled, and brain damaged) were rated on five behaviors (tapping, walking, reading, answering, and counting). The results indicate that behavior rates from all categories overlapped, rates of regular children were significantly faster than the retarded but no different from the other categories, and there were no significant differences between the four exceptionalities. Conclusions are that there may have been too varied collection procedures, the behaviors rated were not sensitive to the differences in the children, or the children may have been mislabeled. In the future labels must become much more individualized. (JM)

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DEPARTMENT OF SPECIAL EDUCATION

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Title: Behavior Rates of Exceptional Children

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EC 005 714

Who are exceptional children and what makes them exceptional? This question sounds as if it was raised a long time ago (even as far back as the turn of the century!) but the problems of "who" and "what" still endure in the 1970's. In the years of progress since 1900, Special Education has grown and prospered. We have progressed from a two-part system (he is deviant, he is normal) to a multiplicity of alternative categories.

Some of the categories prevalent today are: emotionally disturbed, mentally retarded, learning disabled, minimal brain damaged, and/or culturally deprived. These labels include adjectives which indicate something isn't quite right. The modifiers of our "something isn't working right" imply the location of the difficulty. Thus, the problem a child is having can be found in his emotion, mentation, learning, brain, or culture. The next question becomes where does a child get his label?

Providing children with labels is what some professionals do for a living. There are certain rituals and customs which are subscribed to in this process. The labeler must have performed enough behavior to receive a degree, be it M.A., M.D., or Ph.D.. While he was acquiring his own label, he learned how to apply labels to others. His armamentarium encompasses such things as tests, questionnaires, and testimonies from teachers.

Difficulties arise when the professional proceeds from the presenting complaint or teacher testimony to the application of a label. It is analogous to an Interstate freeway where once you get on, it is difficult to get off and go back again. The label, in and of itself, does not contain a description of a particular child. In order to educationally plan we must move from the definition of a label to a description of that child (Deignan, 1970).

Lest we become enmeshed in what to some might be a semantic hang-up, let us take a look at Jose. There are many ways of looking at him and some ways of looking with him (Figure 1). These labels were taken from the permanent record file in his school. The cumulative label graph shows the effect of entering school where at the age of five he went from five to 14 labels. By the time he is nine years old, he has accrued a grand total of 28 labels.

Insert Figure 1 and Figure 2 about here

Jose's labels are all nominal types of classification (in a nominal system of sex for instance, you either are a man or a woman): Jose either has it or he doesn't. If I were his teacher and read his folder before the beginning of school, what would I plan for him for the year? How does a teacher translate a nominal scale into classroom

procedures?

The graduate student (Cooke, 1970) who collected these labels decided to find out more about this child, so she went into the classroom and observed. In order to assist herself in this "viewing" she recorded the rates of a variety of behaviors. (Figure 3). Thus, she moved from the labels to a more precise description of what the child actually does in the classroom. For example, as the graph indicates Jose's a big problem seems to be talking out without permission. Talking out is a remediable problem whereas his "brain damage" doesn't leave us much to go on.

Insert Figure 3 about here

Schiefelbusch states:

> Because of the wide range of differences among exceptional children, no one set of descriptions will serve to explain their social or educational problems. In fact, efforts to simplify and unify information for administrative convenience have often led to stereotypes which may obscure much of the individuality of the children. Consequently, generalizations often obscure more than they reveal. Educational planning must be based upon relevant, descriptive information which provides the basis for the planning of process steps in education and treatment (1967, p. 3-4).

Our goal as Precision Teachers is to help structure the classroom environment so as to maximize the child's learning, at the least

cost to the child, the teacher or the school system. There are several means to that end. One can use information garnered from annual achievement tests, check lists from teachers or parents, spot checks and anecdotal records, time samples of behaviors, or continuous rate records taken directly in the room by the child or his teacher. For the remainder of the paper we will discuss rate measures and what they have to tell us about children with labels.

Children differ in many ways. One yardstick to use in examining these differences is rate. The number of instances of a behavior divided by how long you looked at that behavior defines rate. The immediacy, directness, and precision of this rate (be it a short or long sample) provides current information on which the administrator can group for class placement or the teacher can plan her curriculum changes.

Rate as a basic datum has been used since the first half of the century (Skinner, 1938). It is one of the most sensitive measuring procedures used to quantify behavioral phenomena. Sensitivity is characterized by the rapid, efficient, and economical differentiation between variables; rate has sensitivity as its cornerstone (Lindsley, 1964; Duncan, 1969).

It is incomplete simply to know, note, or mark that a given event has occurred -- nor is it sufficient to record its force,

amplitude, latency, or duration. These behavioral parameters are limited in precision of recording and frequently are more indicative of the observer's decisions than of the subject's behavior (Skinner, 1961).

We have been using rate to begin to answer several educationally relevant questions such as what effect does a student teacher have on children? (Johnson, 1967); how do you teach a Black, urban, ghetto child to read? (Johnson, 1970); What does a school strike do to the children? (Duncan, 1970); can peers teach each other in the classroom? (Starlin, 1969) and so on.

Classroom Precision Teachers have used rate primarily in two ways: to track one child's behavior (s) over several months (Hirsch, 1969; Sencevicky, 1970); or to look at an entire class across several behaviors (Meth, 1970; Hirsch, 1970). The purpose of this paper is to present information about labelled and non-labelled children using rate as the measure. The tool is designed to fit your hand, you do not need a label yourself to be able to use it.

METHOD

Children

Behavior rates were obtained from 97 children across five labels: mentally retarded, emotionally disturbed, regular, learning

disabled, and brain damaged. Table 1 separates the distribution of children by ages.

Insert Table 1 about here

The primary labels of these children were taken from their educational placement. These children may have had more than one label but were classified according to their special class placement. All children were enrolled in special classes with the exception of the regular children who were in pre-school or normal classes. Fourteen schools in the greater New York City area contributed to this study. The children were randomly selected for participation in this project.

Behaviors

The five behaviors whose rates were measured included tapping, walking, reading, answering, and counting. The child tapped the table 100 times with his index finger. He walked in place 50 times; each foot touching the ground counted as one. The child then read aloud from the Wide Range Achievement Test (Jastak and Jastak, 1965). Reading rate correct was computed by dividing total words correct by total time required. For the answer rate, the child responded to a question for one minute. The number of words he spoke was tallied. For the counting rate correct, the child was asked to name the numerals as they appeared on cards in mixed order.

TABLE 1

Children in Labels and Ages

Labels	Number	Age Range	Median Age
Mentally Retarded	37	5- 16	9
Emotionally Disturbed	27	5- 12	9
Regular	21	3- 15	6
Learning Disabled	7	7- 13	8
Brain Damaged	5	5- 14	12
Total	97	3- 16	9 (median)

Rate or rate correct served as the measure for each behavior; the number of responses divided by time. In three of the rates (tap, walk, and count) number was held constant and time varied. For the answer and read rates, time (one minute) was held constant and number varied.

A similar behavior rate sample has successfully differentiated between gifted and regular children, indicating gifted children perform at faster rates on all behaviors for grades four, five, and six (Duncan, 1969).

Equipment and setting

The only equipment required for the rate sample was paper, pencil, stopwatch, and wrist counter (Lindsley, 1966a). Any available room in the school served as the setting. Each child was seen individually for the duration of the sampling.

RESULTS

In general, the results of this study show that: (1) rate distributions for all behaviors for all children overlapped; (2) with one exception, there were no significant differences on any behaviors between regular children and those labelled emotionally disturbed, learning disabled, or brain damaged; (3) there were significant differences (using $p = \text{or} < .01$ between regular and mentally retarded children on all five behaviors; (4) using $p < .01$ significance level, there were no

significant differences on any behaviors among the exceptional children (mentally retarded, emotionally disturbed, learning disabled, and brain damaged). Table 2 summarizes the comparisons across groups.

Insert Table 2 about here

Rate Overlap

As graphically demonstrated in Figure 4, rate distributions of all the children overlapped. The vertical axis, a six-cycle logarithmic scale, represents movements per minute (rate) from one movement every day (.001) to 1000 movements a minute. The logarithmic scale allows reading rate correct and tapping to appear on the same graph without distorting the proportional differences between the two behaviors. Although there was overlap, on the average the children read slower than they tapped. The mentally retarded (median rates) clearly performed slower on all five behaviors. Looking at the median rates, with the exception of answering questions, the regular children performed faster than the others.

Insert Figure 4 about here

TABLE 2

Significance* Levels Comparing Behavior Rates Across Labels

LABELS	TAP				WALK				ANSWER				READ				COUNT			
	MR	ED	LD	BD	MR	ED	LD	BD	MR	ED	LD	BD	MR	ED	LD	BD	MR	ED	LD	BD
Regular	.0006	-	-	.01	.0006	-	-	-	.0[illegible]	-	-	-	.006	-	-	-	.01	-	-	-
Mentally Retarded		.03	-	-		-	.03	-		-	-	-		-	-	-		.02	-	-
Emotionally Disturbed			-	-			-	-			-	-			-	-			-	-
Learning Disabled				-				-				-				-				-

* Exact Probability Computed by Lindsley Mid-Median Test (1966b)

Performance Similarities

As indicated by Table 2, children labelled emotionally disturbed, learning disabled, or brain damaged did not perform significantly different from regular children. This occurred in spite of the fact that the regular children were younger (median age 6 years) than the "special" children (median ages: 9 years E.D.; 8 years L.D.; and 12 years B.D.). The one exception was the significant difference ($p = .01$) between regular children who tapped faster than children labelled brain damaged.

Looking at only the children with the special designations, there were no significant differences ($P = .01$) between the four classifications. In other words, the children's rates were similar on all five behaviors regardless of whether they were categorized as emotionally disturbed, mentally retarded, learning disabled, or brain damaged. The median ages (Table 1) were closer together for the special children (with the exception of median 12 years for the brain damaged) so one might expect if there were differences they would show up here.

Performance Differences

Figure 5 specifies performance rate comparisons between regular and mentally retarded children for all five behaviors. The median rates are plotted to clearly indicate the differences between the two groups. One interesting thing emerges if we look at the

magnitude of the differences between the median rates. The difference between median rates of regular compared with mentally retarded is largest (difference rate of 64 per minute) for tapping, second largest (difference rate of 62 per minute) for counting. This result is somewhat obscured on Figure 5 due to the logarithmic plotting. Both categories of children perform at a slower rate on reading than any other behaviors.

Insert Figure 5 about here

Case Study

One of the difficulties with a behavior rate sample across several children is that an individual child can get lost in the ranges and medians. To graphically demonstrate the move from the definition of a label to a description of a child, I would like to introduce James. James arrived at the door to a special class for emotionally disturbed children late in September holding the Assistant Principal's hand. James was turned over to the teacher; she was drawn aside and told there was no other place for him because he was brain damaged and mentally retarded and would just be there temporarily until a place opened up in an institution. The teacher was instructed not to bother with trying to teach him because 1) he couldn't learn and 2) he would soon be leaving.

James was there and he sat, occasionally drawing pictures and taking part in some games. The teacher was using Precision Teaching with his classmates and James kept "bugging" her to teach him to read. After he had been there three weeks she sat down with him and showed him words on flash cards; he couldn't read one of them (Figure 6).

Insert Figure 6 about here

After three weeks of no success she gave him an "old-fashioned" workbook where he could print the words, cut them out, and glue them to the right picture as well as match words with other words. She began to give him nonsense sentences such as "Can a blue cow fly?" and had him tally the number of words he learned that day on an index card taped to his desk. As the graph indicates there was a leap in the rate from zero to a median of .023 (over two words correct every hundred minutes). After eleven days she gave him his own personal wrist counter and posted his graph on the bulletin board. His reading improved. After nine days she took the counter back and removed his graph from the board; he continued to learn more!

The project ended in November but James kept right on and when it was June he had finished both pre-primers and was starting on his first grade (hard cover) book. This project has a happy ending for James is now in regular second grade and doing beautifully.

DISCUSSION

From the behavior rate samples three possible conclusions may be drawn: (1) Childrens' behavior rates from all categories overlapped (Figure 4); (2) On the average, rates of regular children were significantly faster than retarded (Figure 5) but no different from the disturbed, disabled, or damaged; and (3) There were no significant differences between special childrens' rates in the four categories of emotionally disturbed, mentally retarded, learning disabled, or brain damaged.

In the light of no significant differences among the categories of exceptionality, some questions come to mind.

Is it possible that the behaviors included in the rate sample were not "sensitive" to the "real" differences which might exist?

Were the data collection procedures too varied (ninety-seven children from fourteen different schools in the polyglot of New York City)?

Were the children, in fact, mislabeled?

The last question assumes that somewhere out there is a "genuine" emotionally disturbed child rather than a child who: reads at a slow rate and talks out at a rapid rate. The alternative explanation is that there really are no discernible differences between disturbed, retarded, disabled, and damaged children.

In order to find the differences, we must individualize our labels.

There are two implications from the case material: (1) Jose's teacher can proceed from the brief time sample of the four behavior rates (Figure 3) to a modification project. For example, she might begin with decelerating his talking out, accelerating his asking for help nicely, and then work on academic areas. Rather than looking at Jose through an aura of 28 labels she has the alternative to work with his behaviors directly. (2) A teacher has the option to accept or reject a child's classification as a permanent characteristic based on his previous performance. But, etiology should not interfer with remediation. For remediation we look beyond the classification (care enough to chart) so that erroneous, oft times restraining, expectations are not formed.

Ullman and Krasner state:

> Being labeled in itself has an enormous effect. The crux of the matter conceptually is that while some specific aspect of the person's behavior leads to labeling, in practice it is the total person who is labeled and who is then reacted to in terms of his label. This difference in behavior of other people toward him makes it possible for him to take some roles and emit some acts that will be reinforced, but it also makes it more difficult for him to emit and be reinforced for other behaviors. (1969, p. 207).

In addition to the reactions of others, there is also the child's reaction to his own label. Children are probably much more perceptive than we give them credit for; they know their labels and frequently behave accordingly.

Footnote

1. My thanks to the students enrolled in S.E. 130, Spring, 1969 for their assistance and data collection skills, and especially to Susan Meth who helped keep it all together. To William Duncan, Judi Hirsch, David Montgomery, and Izzye Gulden, my gratitude for their critical pencils and assistance. Last, but not least, my appreciation to the children whose behaviors made this study possible.

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Figure 1.
Duncan BREC

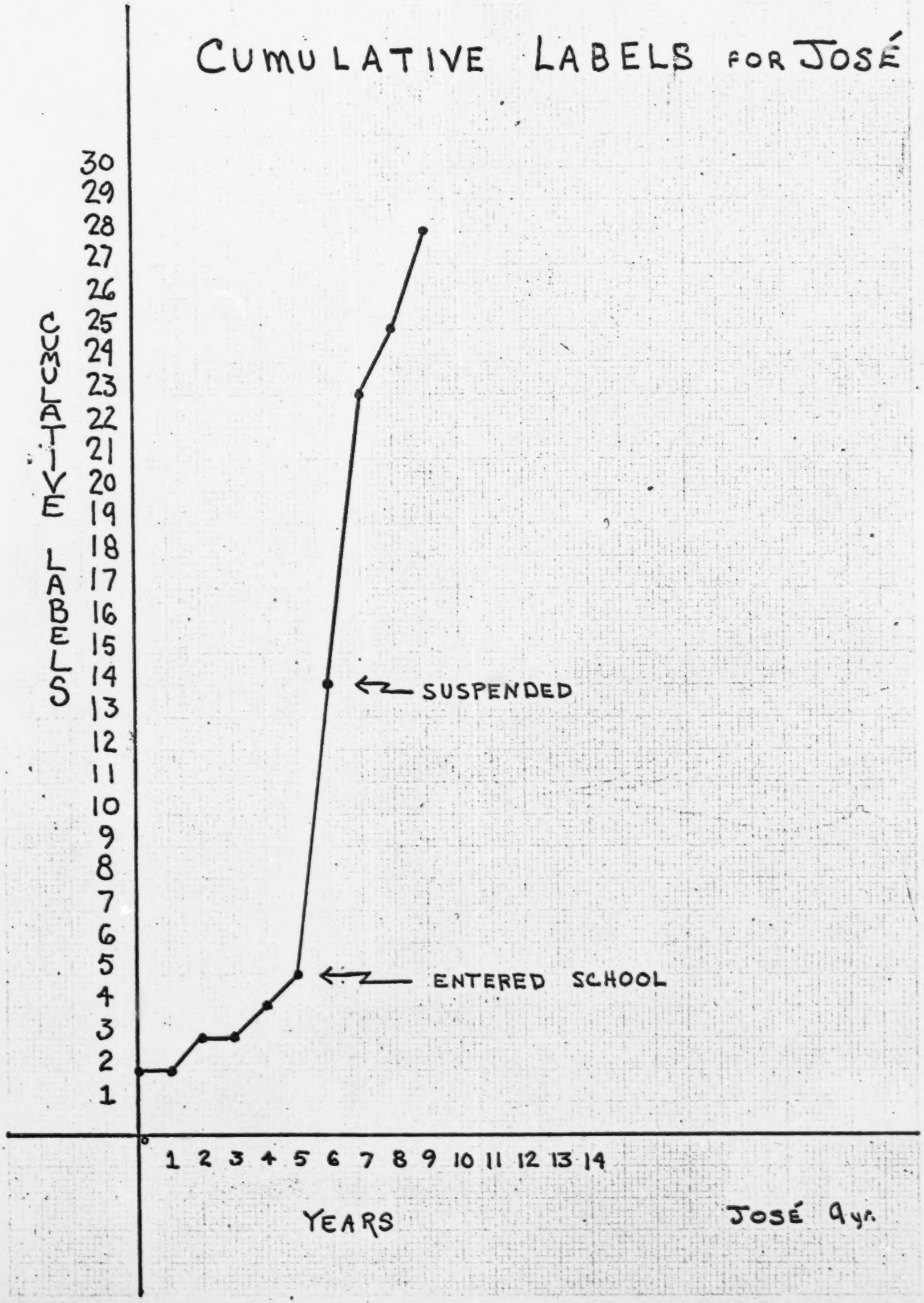
LABELS FOR "JOSÉ"

LABELS	AGES
Spanish American	0
Socially Disadvantaged	
Epileptic	2
Brain Damaged	4
Attention Disorder	5
Hyper Active	6
Violent	
No Concentration	
(was suspended)	
Perceptual-Motor	7
INADEQUACY	
MANAGEMENT PROBLEM	
NON-READER	8
DISTRACTABLE	9
IRRITABLE	

28 Cumulative LABELS

IN 9 YEARS

Duncan. Behavior rates. Figure 2.



CALENDAR WEEKS

10th Oct. 1969 31st

4 8 12 16 20

MOVEMENTS PER MINUTE

1000
500
100
50
10
5
1
.5
.1
.05
.01
.005
.001
0

TALK OUTS

OUT OF SEAT

TOUCH PEERS

ASKS FOR HELP NICELY

.1 .02 .03 .02

Duncan. Behavior rates. Figure 3.

DAILY GRAPH DGT

DUNCAN TRAINER _____ ADVISER B. Cooke MANAGER

José PROTÉGÉ 9 AGE MANY LABEL Behavior MOVEMENT Sample

P.S. 91
New York City

CALENDAR WEEKS

4 8 12 16 20

MOVEMENTS PER MINUTE

1000 500 100 50 10 5 1 .5 .1 .05 .01 .005 .001 0

B. L. E. M. R.

R. R. R. R.

MEDIAN

COUNT

READ

ANSWER

WALK

TAP

B = BRAIN DAMAGED

L = LEARNING-DISABLED

E = EMOTIONALLY DISTURBED

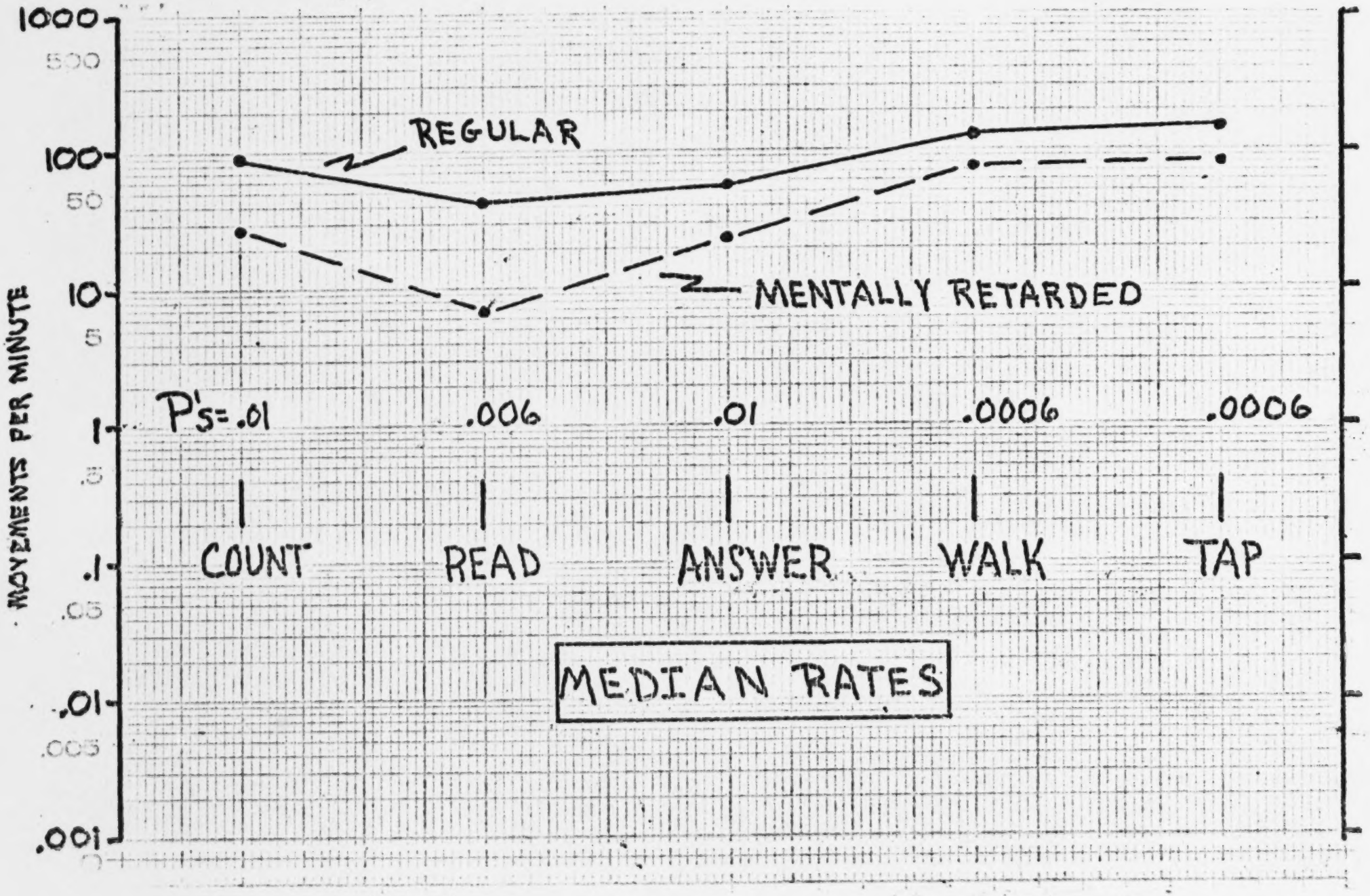
M = MENTALLY RETARDED

R = REGULAR

Figure 4
Duncan BREC

DUNCAN _____ Grad. Students
TRAINER ADVISER MANAGER

Labeled 3-16 Many Behavior
Children 9y. med. Sample
New York City



Duncan. Behavior rates. Figure 5.

DUNCAN TRAINER ____ ADVISER Grad. Students MANAGER

Labeled ... AGE
Children
New York City

Regular o—o Sample
Mentally Retarded o- - - -o

CALENDAR WEEKS

4 8 12 16 20

DAY MO YR

1000
500
100
50
10
5
1
.5
.1
.05
.01
.005
.001
0

MOVEMENTS PER MINUTE

WORKBOOK

TALLY | COUNTER POST GRAPH

.02 .05 .13 0

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

SUCCESSIVE CALENDAR DAYS

DUNCAN — TRAINER
HIRSCH — ADVISER
JAMES — PROTEGE
7½ — AGE
B.D. READ — M.R. WORDS

DUNCAN HIRSCH JAMES READ

Duncan, Behavior rates Figure 6